

## Reinforcement

## Chapter 1

## BLM 1-4

## Naming and Drawing Organic Compounds

## Goal

Practice naming and drawing organic compounds.

## Procedure

1. Draw a structural diagram for each organic compound. For each molecule, indicate whether the molecule can form hydrogen bonds with other molecules of the same compound or with water

Compound	Structural diagram	Hydrogen bonding	
		with-itself	with water
3-ethylpentan-2-ol	$\begin{array}{c} \text{OH} \\   \\ \text{CH}_3 - \text{CH} - \text{CH} - \text{CH}_2 - \text{CH}_3 \\   \\ \text{CH}_2 - \text{CH}_3 \end{array}$	yes	yes
Heptan-1-amine	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \begin{array}{c} \text{NH}_2 \\   \\ \text{CH}_2 \end{array}$	yes	yes
hexanal	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \begin{array}{c} \text{O} \\    \\ \text{C} - \text{H} \end{array}$	No	yes
propanone	$\text{CH}_3 - \begin{array}{c} \text{O} \\    \\ \text{C} \end{array} - \text{CH}_3$	No	yes
pentanoic acid	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \begin{array}{c} \text{O} \\    \\ \text{C} - \text{OH} \end{array}$	yes	yes
ethylbutanoate	$\text{CH}_3 - \text{CH}_2 - \text{O} - \begin{array}{c} \text{O} \\    \\ \text{C} \end{array} - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$	No	yes
hexanamide	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \begin{array}{c} \text{O} \\    \\ \text{C} - \text{NH}_2 \end{array}$	yes	yes
3-methylpentan-2-one	$\begin{array}{c} \text{O} \\    \\ \text{CH}_3 - \text{C} - \text{CH} - \text{CH}_2 - \text{CH}_3 \\   \\ \text{CH}_3 \end{array}$	No	yes

Date:

Name:

Class:

2-methylpropan-2-ol	$\text{CH}_3 - \underset{\text{CH}_3}{\overset{\text{OH}}{\text{C}}} - \text{CH}_3$	yes	yes
2-methoxybutane	$\text{CH}_3 - \underset{\text{O}-\text{CH}_3}{\text{CH}} - \text{CH}_2 - \text{CH}_3$	No	yes
N,N-dimethylheptan-1-amine	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \underset{\text{CH}_3}{\text{N}} - \text{CH}_3$	No	yes
propyl 2,3-dimethylhexanoate	$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{O} - \underset{\text{CH}_3}{\overset{\text{O}}{\text{C}}} - \underset{\text{CH}_3}{\text{CH}} - \text{CH}(\text{CH}_3) - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$	No	yes
Octane-3,4-diol	$\text{CH}_3 - \text{CH}_2 - \underset{\text{OH}}{\overset{\text{OH}}{\text{CH}}} - \text{CH} - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$	Yes	yes
N-ethyl-3-methylbutanamide	$\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \underset{\text{O}}{\overset{\text{O}}{\text{C}}} - \text{NH} - \text{CH}_2 - \text{CH}_3$	yes	yes
2,3,4-trimethylpentanal	$\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{O}}{\overset{\text{O}}{\text{C}}} - \text{H}$	No	yes
6-propyl-2,4,5,7-tetramethyldecanoic acid	$\text{CH}_3 - \text{CH}_2 - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2 - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{CH}_3}{\text{CH}} - \underset{\text{O}}{\overset{\text{O}}{\text{C}}} - \text{OH}$	yes	yes

2. Name the following organic compounds.

(a)  $\text{CH}_3\text{CH}_2\text{COOH}$ 

Propanoic acid

(b)  $\text{CH}_3\text{C(O)CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ 

heptan-2-one

(c)  $\text{CH}_3\text{CONH}_2$ 

ethanamide

(d)  $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{OH}$ 

2-methylbutan-1-ol

(e)  $\text{CH}_3\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{NH}_2$ 

2,2-dimethylbutan-1-amine

(f)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ 

1-ethoxybutane

(g)  $\text{HCOOCH}_2\text{CH}_2\text{CH}_3$ 

propyl methanoate

(h)  $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CHO}$ 

3-methylpentanal